

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE		PAGE OF PAGES 1 6	
2. AMENDMENT/MODIFICATION NO. 47		3. EFFECTIVE DATE See Block 16C		4. REQUISITION/PURCHASE REQ. NO.		5. PROJECT NO. (If applicable)
6. ISSUED BY John F. Kennedy Space Center, NASA Procurement Office – ODIN – OP-OS-ODIN Kennedy Space Center, FL 32899			7. ADMINISTERED BY (If other than Item 6) CODE			
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code) OAO Corporation 7375 Executive Place Seabrook, MD 20706-2278				(x) 9A. AMENDMENT OF SOLICITATION NO.		
				9B. DATED (SEE ITEM 11)		
				10A. MODIFICATION OF CONTRACT/ORDER NO. NAS5-98144/NNK05OA12D		
				10B. DATED (SEE ITEM 13) December 1, 2004		
CODE		FACILITY CODE				
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS						
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning ____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.						
12. ACCOUNTING AND APPROPRIATION DATA (If required)						

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.	
	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
X	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: NAS5-98144 Contract Clause C.7 Technology Refreshment Process and FAR Clause 52.212-4 Contract Terms and Conditions-Commercial Items, (c) Changes
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

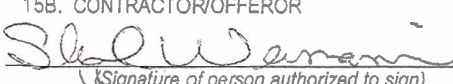
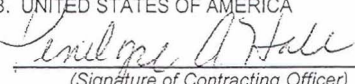
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Stennis Space Center --- ODIN SERVICES

Technology Infrastructures: Incorporation of SWR NSS1 6TMP 20 Rev 02

Change in Delivery Order Price: \$251,998.77 (INCREASE)

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Sheryl K. Weimann Contracts Manager		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Penelope A. Hale Contracting Officer	
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)	15C. DATE SIGNED 12/19/05	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)	16C. DATE SIGNED 1/5/2006

1. In accordance with Master Contract NAS5-98144, C.7, Technology Refreshment Process, the technology refreshment services referenced below is hereby incorporated into this Delivery Order at a fixed price of \$251,998.77.

SWR #	Subject	Amount
NSS1 6TMP 20 Rev 02	Install Cat3 and Cat5e wiring on the 2nd floor of B5100 to support telephones and networks for NSSC until their new building gets built	\$251,998.77

2. SWR NSS1 6TMP 20 Rev 02

The contractor shall provide the labor (including, but not limited to, engineering, configuration management, user coordination/scheduling, wiring/cabling (IEEE 802.3, EIA/TIA Building Wiring Standards, National Electric Code, and Fire Protection Code, as applicable), and equipment installation) and materials necessary to Install Cat3 and Cat5e wiring on the 2nd floor of B5100 to support telephones and networks for NSSC until their new building gets built as outlined in OAO proposal dated December 1, 2005. Installation will include testing, labeling, and configuration documentation (red line drawings).

- a. The contractor shall be responsible for performance of the following tasks:

ODIN shall work:

- (1) Install one Cisco Cat 4506 with 4 10/100/1000 48 port cards and a SupV card in building 5100 room AER242.
- (2) Install one Cisco Cat 4506 with 4 10/100/1000 48 port cards and a SupV card in building 5100 room AER244
- (3) Install one Cisco Cat 4506 with 4 10/100/1000 48 port cards and a SupV card in building 5100 room AER245
- (4) Install one APC Smart UPS 5000 in room AER242 of building 5100
- (5) Install one APC Smart UPS 5000 in room AER244 of building 5100
- (6) Install one APC Smart UPS 5000 in room AER245 of building 5100
- (7) Install one GFE APC ISX Manager 100N in building 1201 room 181
- (8) Install three APC UPS Management Card (AP9617) one in each UPS
- (9) Configure the 3 UPS' Management Card to Monitored by the ISX Manager
- (10) Trunk all 3 new switches back to SSCCUDA ensure dual uplinks are on separate cards in SSCCUDA
- (11) Update all Databases
- (12) Ensure all three Cisco devices are on the CiscoWorks Map
- (13) Ensure all three Cisco devices are being monitored by Ehealth
- (14) Update drawings
- (15) Update security plans
- (16) Install fiber jumpers to activate network switches.
- (17) Install (1) 300 pair 110 wiring block in MER102 for PointSpan cables.
- (18) Install (18) 25-pair copper cables from existing PointSpan remote to new 110 wiring blocks in room MER102.
- (19) Terminate (18) 25-pair copper cables on 110 wiring blocks in room MER102.
- (20) Install (6) 32-port ITE line cards in existing PointSpan.
- (21) Test some of the ports on each ITE line card once the 25-pair copper cables have been installed to make sure the line cards are working.

BOE-TEL shall work:**B5100**

- (1) Install (5) Cat5e 48-port patch panels and (5) wire management panels in room AER245.
- (2) Install (2) Cat5e plenum wires to (101) locations and terminate one end on (2) Cat5e white jacks and the other end on 48-port patch panels in room AER245 to be used for networks.
- (3) Install (2) Cat5e plenum wire to (101) locations and terminate one end on (2) Cat5e gray jacks and the other end on existing and new 110 wiring blocks in room AER245 to be used for telephones.
- (4) Install (1) Cat5e plenum wire to (5) office locations (M247 thru M251) and terminate one end on (1) Cat5e jack and the other end on new 110 wiring blocks.
- (5) Install (2) Cat5e jacks to (2) existing Cat5e wires that were pulled and never terminated on jacks and patch panels in rooms (M247 thru M251).
- (6) Install (2) 110AW2-300 wiring block in room AER245.
- (7) Test and label Cat5e wiring at both ends.
- (8) Provide ODIN with redline drawing showing jacks numbers and jack locations.
- (9) Install (1) 110AW2-100 wiring block in room MER102 and (1) in room AER245.
- (10) Install (1) 100-pair copper cable from room MER102 up to room AER245 and terminate on 110 wiring blocks installed in item (9) above.
- (11) Install (1) 6-strand singlemode fiber cable from MER102 to AER242, AER244 & AER245 to be used to connect the new network hubs.
- (12) Test and label fiber at both ends.

BOE-TEL shall work:**New precast concrete building:**

- (1) Install 19" x 84" aluminum equipment rack and (2) double sided cable troughs.
- (2) Install 12" cable tray through out new building.
- (3) Install (1) LGX-144 and associated ST panels and ST couplers.
- (4) Pull back slack in 12mm/24sm fiber cable that runs between B5100 and B9801 and pull into new precast building.
- (5) Cut 12mm/24sm fiber cable in half and terminate in new ST connectors and place in LGX-144 that was installed in item (3) above.
- (6) Test fiber between new precast building and B9801 and provide test results to ODIN.
- (7) Test fiber between new precast building and B5100 and provide test results to ODIN.
- (8) Place new fiber jumpers to extend existing services from B1201 up to B9801.
- (9) Provide ODIN with a redline drawing showing fiber placement into building.

LMTO shall work:

- (1) LMTO will place new electrical in rooms MER102, AER242, AER244 and AER245 for the placement of network switches for NSSC.
- (2) LMTO will provide new modular furniture for room 241 area or the blue area.
- (3) LMTO will provide power poles to the new modular furniture so that network and telephone wiring can be placed into cubicles.

b. The contractor shall provide the following material:

BOE-TEL shall purchase:

- (1) 70,000 feet of BERK-TEK Cat5e plenum wire (CMP-00424LAN-6U-01)
- (2) 1,200 feet of Corning 6-strand singlemode (370-948-SMODE-06)
- (3) 400 feet of 100-pair copper cable (CM-10024BAG-3-01)
- (4) 212 each Ortronics Cat5e TracJack (248920) white

- (5) 212 each Ortronics Cat5e TracJack (248938) gray
- (6) 150 each Systimax 14 feet Cat6 patch cords (MM15-AV7E-10)
- (7) 132 each cool cure consumables (142172)
- (8) 125 each Velcro ties
- (9) 101 each Ortronics TracJack surface mount box (192461)
- (10) 100 each Systimax 7 feet Cat5e patch cord (MM07-AV7E-10)
- (11) 84 each P3020-C-125 singlemode ST connectors (157475)
- (12) 84 each A3000 singlemode ST couplers (184326)
- (13) 60 each Caddy J-hooks (184873)
- (14) 24 each P2020C-C-125 multimode ST connectors (170290)
- (15) 24 each A2000 multimode ST couplers (184324)
- (16) 60 each Systimax 5 feet Cat5e patch cord (MM05-AV7E-10)
- (17) 60 each Caddy J-hooks (184873)
- (18) 24 each P2020C-C-125 multimode ST connectors (170290)
- (19) 24 each A2000 multimode ST couplers (184324)
- (20) 21 packs Systimax 110C-4 connectors
- (21) 16 each Chatsworth junction splice (249445)
- (22) 8 each Chatsworth wall angle support (182845)
- (23) 6 each Chatsworth ladder rack (164166)
- (24) 5 each Ortronics TracJack faceplate (189457)
- (25) 5 each Ortronics wire management (130227)
- (26) 5 each Ortronics 48-port Cat5e patch panels (248952)
- (27) 4 each Chatsworth butt splice (249442)
- (28) 4 packs of 110C-5 connectors
- (29) 2 each Systimax 110AW2-300 pair wiring block (154071)
- (30) 6 each 3-meter singlemode ST/SC fiber jumper (152038)
- (31) 6 each 3-meter singlemode ST/ST fiber jumper (151988)
- (32) 6 each 3-meter singlemode ST/LC fiber jumper (264453)
- (33) 6 each 2-meter singlemode ST/SC fiber jumper (152037)
- (34) 6 each 7-meter singlemode ST/SC fiber jumper (266846)
- (35) 6 each 1-meter singlemode ST/ST fiber jumper (151986)
- (36) 3 each Avaya 600B trough (192718)
- (37) 3 each Avaya 600B fiber shelf (178260)
- (38) 3 each Avaya 600B cover plate (179391)
- (39) 3 each Avaya 600B 24-port panel (179380)
- (40) 2 each doubled sided vertical through (166031)
- (41) 2 each LST1U-144/9 termination shelf (172178)
- (42) 2 pack of 1200ST panels (178743)
- (43) 2 each Systimax 110AW2-100 wiring block (154069)
- (44) 1 each 19" x 84" aluminum equipment rack (143592)

ODIN shall purchase:

- (1) 3 each WS-C4506 (Catalyst 4500 chassis (6-slot), fan, no P/S)
- (2) 3 each PWR-C45-2800ACV catalyst 4500 AC power supply
- (3) 3 each PWR-C45-2800ACV/2 catalyst 4500 AC power supply
- (4) 6 each CAB-AC-2800TWLK U.S. power cord, twist lock, NEMA 6-20
- (5) 3 each WS-C4506 (Catalyst 4500 supervisor V (2GE) Console (RJ45)
- (6) 3 each S4KL3K9-12225EWA Cat4500 IOS Basic L3 3DES
- (7) 12 each WSX4548-GB-RJ45 Catalyst 4500 enhanced 48-port 10/100/1000
- (8) 9 each Con-SNT-WS-C4506 8x5xNBD SVC, catalyst 4500 chassis
- (9) 12 each WS-G5486 100BASE-LX/LH
- (10) 3 each APC Smart-UPS RT 5000VA 208V (SURT5000XLT)
- (11) 3 each 1APC Smart-UPS RT 192V battery

- (12) 6 each line cards ITE, 36-port 2-pair, w/license (885-005-302Q)
- (13) 18 each 25-pair cables equipped with 180 degree AMP connector (500-1274-102)

NASA shall provide the following material:

- (1) 1 each APC ISX Manager

c. Schedule: The contractor shall complete the interior of B5100 portion of the upgrade within 6 weeks from the effective date of the modification. The remaining fiber installation is dependent upon when the new building is installed at the new site. Once the new building is installed, it will take approximately 10 working days to complete the remainder of the upgrade.

3. Part II "Contract Administration Data", Item 4, is revised as indicated below to incorporate the increase of \$251,998.77 for this infrastructure upgrade:

Month/Mod	Description	Monthly Total	Actual Total To Date
Nov-05	Ordered Seats and Services	\$ 401,025.69	\$ 4,769,403.30
Oct-05	Catalog Services	\$ 3,292.44	\$ 151,129.46
Oct-05	Specialized Services	\$ 101,019.36	\$ 195,386.09
	Infrastructure upgrades	\$ -	\$ 1,123,304.72
	Fast Track Mods Authorized (but not incorporated by Mod)	\$ 110,818.44	\$ 110,818.44
	sub-total of ordered services	\$ 616,155.93	\$ 6,350,042.01
	Less facility credit	\$ -	\$ -
	Less outage credit	\$ -	\$ -
	Less retainage not earned	\$ -	\$ (419.51)
	TOTAL	\$ 616,155.93	\$ 6,349,622.50

4. Part V "Technology Infusion (Infrastructure Upgrades)", Item 3 is modified to include the subject infrastructure upgrades. The signed date will be completed in a future infrastructure upgrade modification.

Mod	Description	Date Signed	Amount
47	Install Cat3 and Cat5e wiring on the 2nd floor of B5100 to support telephones and networks for NSSC until their new building gets built		\$251,998.77

5. Payment Schedule: Invoicing and Payment for this modification will be made in accordance with Master Contract NAS5-98144, FAR 52.212-4: Commercial Items (May 1997) (Modified) in accordance with the following:

Phase I: Payment of \$179,590.94 shall be paid upon receipt of all material as accepted by the DOCOTR or designee.

Phase II: Payment of \$57,926.26 after all Cat 5e wiring and Cat 5e patch panels and fiber have been installed and tested on the 2nd floor of B5100 and accepted by the DOCOTR or designee.

Phase III: Payment of \$14,481.57 once all existing fiber has been pulled into precast concrete building and all equipment racks, fiber panels, fiber couplers and fiber terminated and tested and job accepted by DOCOTR or designee.

6. Reporting requirements: The contractor shall provide monthly status reports to the SSC DOCOTR, with a copy to the DOCO. These reports shall include, as a minimum, installation progress, and potential problem areas.
7. In consideration of the modification agreed to herein as complete equitable adjustment for the changes set forth, the Contractor hereby releases the Government from any and all liability under this delivery order for further equitable adjustments attributable to such facts or circumstances giving rise to these changes.
8. All other terms and conditions of this Delivery Order remain unchanged and in full force and effect.